

## ABSTRACT

A control system and apparatus for use with laser ionization is provided.

In another aspect of the present invention, the apparatus includes a laser, pulse shaper, detection device and control system. A further aspect of the present invention employs a femtosecond laser and a mass spectrometer. In yet other aspects of the present invention, the control system and apparatus are used in MALDI, chemical bond cleaving, protein sequencing, photodynamic therapy, optical coherence tomography and optical communications processes.